

Work Order ID 67058

Monday, March 07, 2011 8:13:10 AM



Page 1

Item ID: D412-664-203

Accept



Setup Start



Revision ID:

Stop



Item Name: Crosstube Aft

Start Date: 3/7/2011 Start Qty: 1.00



Cust Item ID:

Required Date: 3/17/2011 Req'd Qty: 1.00



Customer:

Reference:

Run Start



Approvals: Process Plan: 

Date:

Tooling:

Date:

Stop



QC:

Date:

SPC (Y/N):

Date:

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D412-664-243	E								

100

0.00



DOCUMENT CONTROL

DC

Memo

0.00

Document Control

Photocopy bluefile and create labels as per PPP D412-664-203 CHG 006

8/10/12/4

110

0.00



Packaging

Packaging

Memo

0.00

Packaging

120

0.00



BENDING MACHINE - CROSSTUBES

CNC Bend 2

Memo

0.00

CNC Alpha 160 Bender

Bend tube as per Dwg D412-664-243 using CNC bender program 412-aft and Folio FT010

DP

11-3-16

DP

11-3-6

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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NOTE: Date & initial all entries

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Required Date: 3/17/2011 Req'd Qty: 1.00

Reference:

Cust Item ID:

Customer:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start
StopSequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

130

QC15- Crosstube Dimensional Check

0.00



QC

Memo

0.00

Quality Control

140

Crosstubes

0.00



Crosstubes

Memo

0.00

Crosstubes

1-Drill pilot holes in tube as per Dwg D412-664-243 using drill Jig DT8550 & DT8551 and drill table DT8577 using #9 holes as per QSI 10 to install towers.

2-Ream hole to finish size in tube as per Dwg D412-664-243 using drill Jig DT8550 & DT8551. Check dimensions between holes, both sides on both cuffs, to ensure alignment with saddle holes.

3-SCRIBE PART # & BATCH #

4-Deburr & Inspect for surface damage. Repair damage within limits as per Dwg D412-664-243

SAD 11-03-17

DP 11-3-17

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

150

Crosstubes Chemical Conversion

0.00



HandFXtube

Memo

0.00

SAD 11-03-17

(1)

Hand Finishing Crosstubes

160

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Sulor/18

(86)

Quality Control

170

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Sulor/18

Quality Control

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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NOTE: Date & initial all entries

Page 4

[illegible][illegible][illegible]

Customer:

[illegible]

Abstract

00000000000000000000

Date:**Insp.
Stamp**[illegible]

Outsource process - NDT

Liquid Penetrant Inspection as per QSI 038Or
Issue P/O: 13681 LPI as per ASTM 1417
Level 2 Attach copy of NDT results to work order

CZ 11/03/18 ①



Packaging

Inspect for transit damage
Ensure copy of NDT results attached to work order.

4/3/18 (1)

1
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Quality Control

Inspect for damage & ensure results are as per Dwg D412-664-203

11 03 21 ①

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Cust Item ID:

Customer:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

210



SprayPaint

Spray Painting

SprayPaint

Memo

1-Prime inside and outside crosstube as per QSI 005 4.2
2-Paint outside crosstube with White Imron as per QSI 005 4.2

PRIME:

Start Time: 10:00Finish Time: 11:00

PAINT:

Start Time: 3:00Finish Time: 4:30

0.00

0.00

1 11 03 21 (1)

220



QC

Quality Control

QC14- Inspect Spray Paint

Memo

Then, Wrap in plastic bag to protect from scratches

0.00

0.00

81 11 03 22 (1)

W/O:		WORK ORDER CHANGES					
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[illegible]

Page 6

Accept

**Setup Start**

Stop

**Cust Item ID:**[illegible]

Customer:

Reference:

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

Run Start

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

**Insp.
Stamp**

0.00

[illegible]

Crosstubes

0.00

Crosstubes

Memo

Crosstubes

Assemble as per Dwg D412-664-203

1- Lightly scuff the bonded area using a 320 grit sand paper and clean the area with 41058 wash 'n' wipe

2-Install supports with magnobond as per QSI 015 Adhere for for 12 Hrs

A/R 6398 Magnobond Batch: 116677
Expiry Date: 08/2011

3-Install clamps as per Dwg D212-664-203 using installaiton jig DT9024 with 0.010 thick brass shims on both chafing sheild (D3189-1). Torque clamps to 80-100 in lb.

240

[illegible]

QC

Quality Control

QC5- Inspect part completeness to step on W/O

0.00

Memo

0.00

W/O:		WORK ORDER CHANGES					
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Work Order ID 67058

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Item ID: D412-664-203

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Customer:

Reference:

Run Start



Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Stop



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

250

Pick Kit

0.00



Packaging

Memo

0.00

Packaging

6/4/3/24 C

260

QC4- 100% Inspect kits for completeness

0.00



QC

Memo

0.00

Quality Control

8/6/3/24

4

270

Packaging

0.00



Packaging

Memo

0.00

Packaging

Identify and pack for shipping as per PPP D412-664-203
*****Ensure tube is not packaged if curing time is less than 12 hrs, see step 27
for application time & date *****
Time & date of packaging: _____
Location: _____

6/4/3/24

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Stop

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Start Date: 3/7/2011 Start Qty: 1.00

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Required Date: 3/17/2011 Req'd Qty: 1.00

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

280

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

U660328

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Picklist Print

Monday, March 07, 2011 8:13:07 AM

Page 1

Work Order ID: 67058

Parent Item: D412-664-203

Parent Item Name: Crosstube Aft



Start Date: 3/7/2011

Required Date: 3/17/2011

Start Qty: 1.00

Required Qty: 1.00

Comments:

IPP Rev:E 04.02.16 Reformat; Added D3189-1 K/DS
 IPP Rev:F 06-03-29 Remove Coments on Pick List JLM
 IPP Rev:G 06.12.08 per ECN 886 EC
 IPP Rev:H 07-04-30 As per Rev D JLM
 IPP Rev:I 08-06-12 add comment in seq. 21 DD verified by:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
AN6-40A Bolt		Purchased	No			250	Each	75.0000	4	4			

Location

Loc Qty

Loc Code

ST343

75

112828

1

115300

34

115905

20

116549

20

115300

AN6-41A

Purchased

No

250

Each

36.0000

2

2

Bolt

Location

Loc Qty

Loc Code

ST344

36

113288

6

115316

30

115

AN960JD616

NAS1149D0663J

Purchased

No

250

Each

0.0000

18

18

Washer

115996

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Work Order ID: 67058

Parent Item: D412-664-203

Parent Item Name: Crosstube Aft

Start Date: 3/7/2011

Required Date: 3/17/2011

Start Qty: 1.00

Required Qty: 1.00

D2856-600

Manufactured No

230 f

127.6331 1.76 1.76



Abrasion Strip



11.03.23

Location

Loc Qty

Loc Code

ST	0.48	
37668	0.48	
ST403	127.1531	
25656	1.25	
26650	2.5	
37668	123.4031	

D2896-1

Manufactured No

230 Each

13.0000 1 1



Support



11.03.23

Location

Loc Qty

Loc Code

LG	13	
47820	5	
58356	8	

D3189-1

Manufactured No

230 Each

26.0000 2 2



Chafing Shield



11.03.23

Location

Loc Qty

Loc Code

FG	2	
36065	2	
LG	24	
58960	4	
63982	20	

W/O:		WORK ORDER CHANGES					
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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Parent Item: D412-664-203

Parent Item Name: Crosstube Aft

Start Date: 3/7/2011

Required Date: 3/17/2011

Start Qty: 1.00

Required Qty: 1.00

D3595-063-570

Manufactured No

230 Each

56.0000

2 2



RUBBER CUSHION



m 11-03-23

Location

Loc Qty

Loc Code

FG

4

37971

4

LG

52

42243

31

63406

21

D412-664-203TRN

Manufactured No

110 Each

2.0000

1 1



Crosstube Turning Detail



Location

Loc Qty

Loc Code

LG

2

64740

1

64742

1

MS21042L6

Purchased No

250 Each

247.0000

6 6



Nut



DDP 11-3-11

64/3/24

Location

Loc Qty

Loc Code

ST300

247

111578

4

116102

43

116373

100

116548

100

m 116373

Monday, March 07, 2011 8:13:08 AM

Shop Packet Print

Page 3

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Monday, March 07, 2011 8:13:08 AM

Page 4

Work Order ID: 67058

Parent Item: D412-664-203

Parent Item Name: Crosstube Aft



Start Date: 3/7/2011

Required Date: 3/17/2011

Start Qty: 1.00

Required Qty: 1.00

MS21920-28

Purchased

No

230

Each

98.0000

4

4



Clamp(per MIL-DTL-8783C)



11-03-23

Location

Loc Qty

Loc Code

FG

5

105884

5

LG

93

114749

6

116039

36

116839

51

MS21920-30

Purchased

No

230

Each

98.0000

2

2



clamp(per MIL-DTL-8783C)



11-03-23

Location

Loc Qty

Loc Code

LG

98

109181

36

111258

50

112772

12

Monday, March 07, 2011 8:13:08 AM

Shop Packet Print

Page 4

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Item	Qty	Part Number	Description
	-243		
1	X	D412-664-243	CROSSTUBE ASSEMBLY (412 HIGH AFT)
2	1	D6009-129	CROSSTUBE
3	2	D3595-063-570	RUBBER CUSHION
4	1	D2896-1	SUPPORT
5	2	D3189-1	CHAFING SHIELD
6	2	D2856-600-1009	ABRASION STRIP
7	4	MS21920-28	CLAMP
8	2	MS21920-30	CLAMP (OR MS21920-32)
9	A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299-947-100, TYPE II, CLASS 2 ADHESIVE)

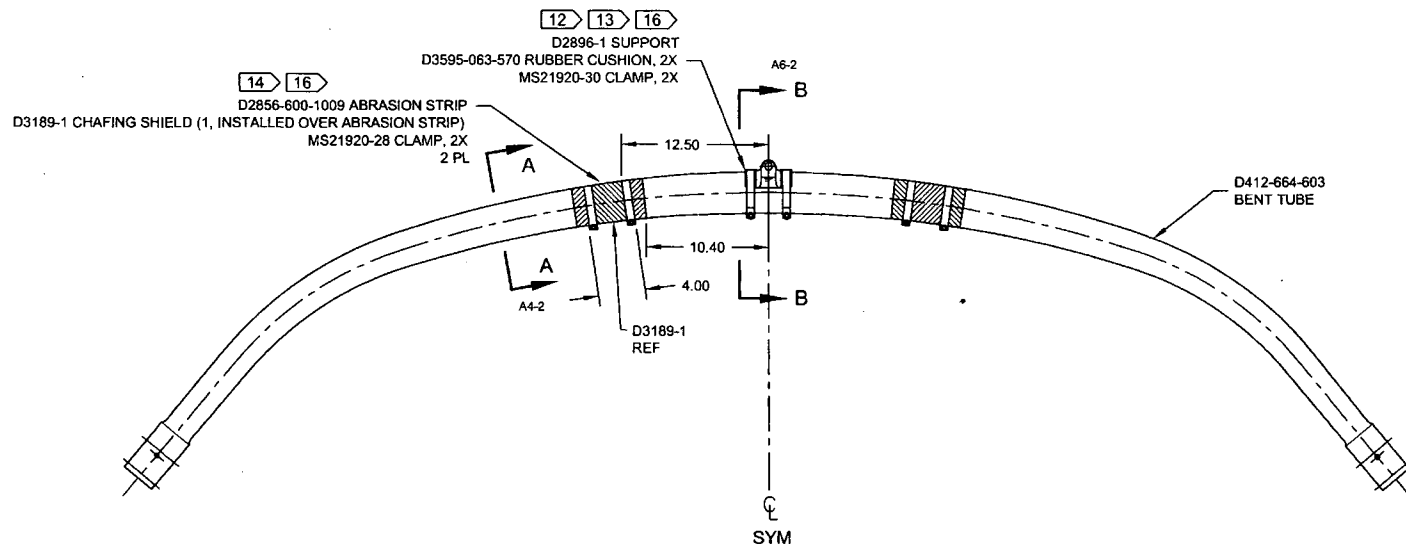
GENERAL NOTES:

- 1) MATERIAL: MANUFACTURED FROM D6009-129
FINISHED LENGTH = 124.100±0.020 (BEFORE BENDING/TRIMMING)
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
PAINT OUTSIDE PER DART QSI 005 4.2
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED.
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- 6) IDENTIFICATION: SCRIBE DART PART NUMBER "D412-664-243" AND BATCH NUMBER ON INSIDE OF CUFF USING VIBRATING STYLUS.
- 7) WEIGHT: 47.0 lbs (PER IIN-D212-664)
- 8) PART IS SYMMETRIC ABOUT CENTERLINE.
- 9) RUN CUTTER OFF PART. BLEND OUT EDGE LONGITUDINALLY. TRANSITION SHOULD BE SMOOTH.
- 10) BEND PROGRESSIVELY WITH A MINIMUM OF 8 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D.
- 11) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- 12) INSTALL D2896-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 TO THE SURFACE OF D2896-1 THAT WILL BE IN CONTACT WITH THE CROSSTUBE PER QSI 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
- 13) INSTALL MS21920-30 CLAMPS (OR -32) WITH D3595-063-570 RUBBER CUSHIONS TO SECURE THE D2896-1 SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMPS ARE OPPOSITE OF CROSSTUBE SUPPORT.
- 14) INSTALL D2856-600-1009 ABRASION STRIPS WITH A 0.13 REF GAP ON BOTTOM SIDE OF CROSSTUBE PER QSI 035.
- 15) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 16) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.

E	REFORMAT/REVISE GENERAL NOTES; REORGANIZED VIEWS AND REFORMATTED DRAWING TO CURRENT STANDARDS; RELOCATED FLAG #6 PER PAR 06-046 (ZN A6-3); ADD TOLERANCE (ZN B6-3, C4-3, C8-3 & C5-3); MOVED TURNING DETAIL & UPDATED TOLERANCE TO SHEET 4.	RF	09.09.30
D	REMOVE D2732-058, CHANGE TO D3595-063-570	PH	07.03.09
C	REMOVE D2856-600-1087, ADD D2732-058 & MAGNOBOND 6398, MS21920-32 WAS MS21920-30	MB	06.10.27
B	ADD HOLES FOR COMPATABILITY WITH BHT/AA SKIDTUBES	PH	05.02.04
A	NEW ISSUE	PH	01.10.17
REV.	DESCRIPTION	BY	DATE
DESIGN	PH	DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	PH	DRAWING NO.	REV. E
MFG. APPR.	PH	D412-664-243	SHEET 1 OF 4
APPROVED	PH	TITLE	SCALE
DE APPR.	PH	CROSSTUBE ASSEMBLY (412 HI AFT)	NTS
DATE	09.09.30	COPYRIGHT © 2001 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSES OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

RELEASED
2009-10-29
WAP

67058



D212-664-243
ASSEMBLY DETAIL



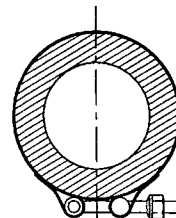
12
APPLY MAGNOBOND
BETWEEN D2896-1 AND
THE CROSSTUBE

D2896-1
SUPPORT
REF

D3595-063-570
RUBBER CUSHION
UNDER CLAMP, REF

13 16
MS21920-30
CLAMP, REF

SECTION B-B D4-2
SCALE 4X

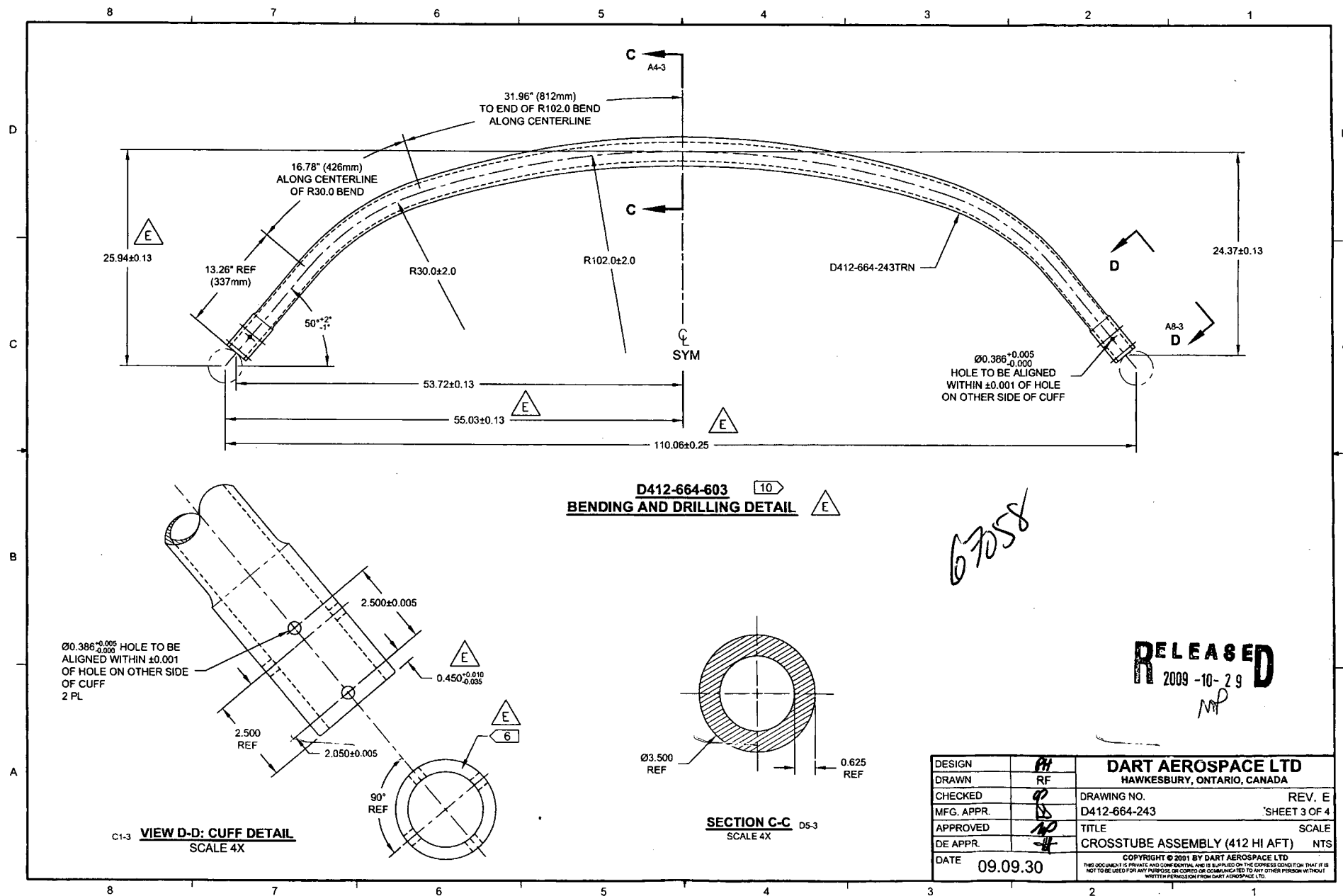


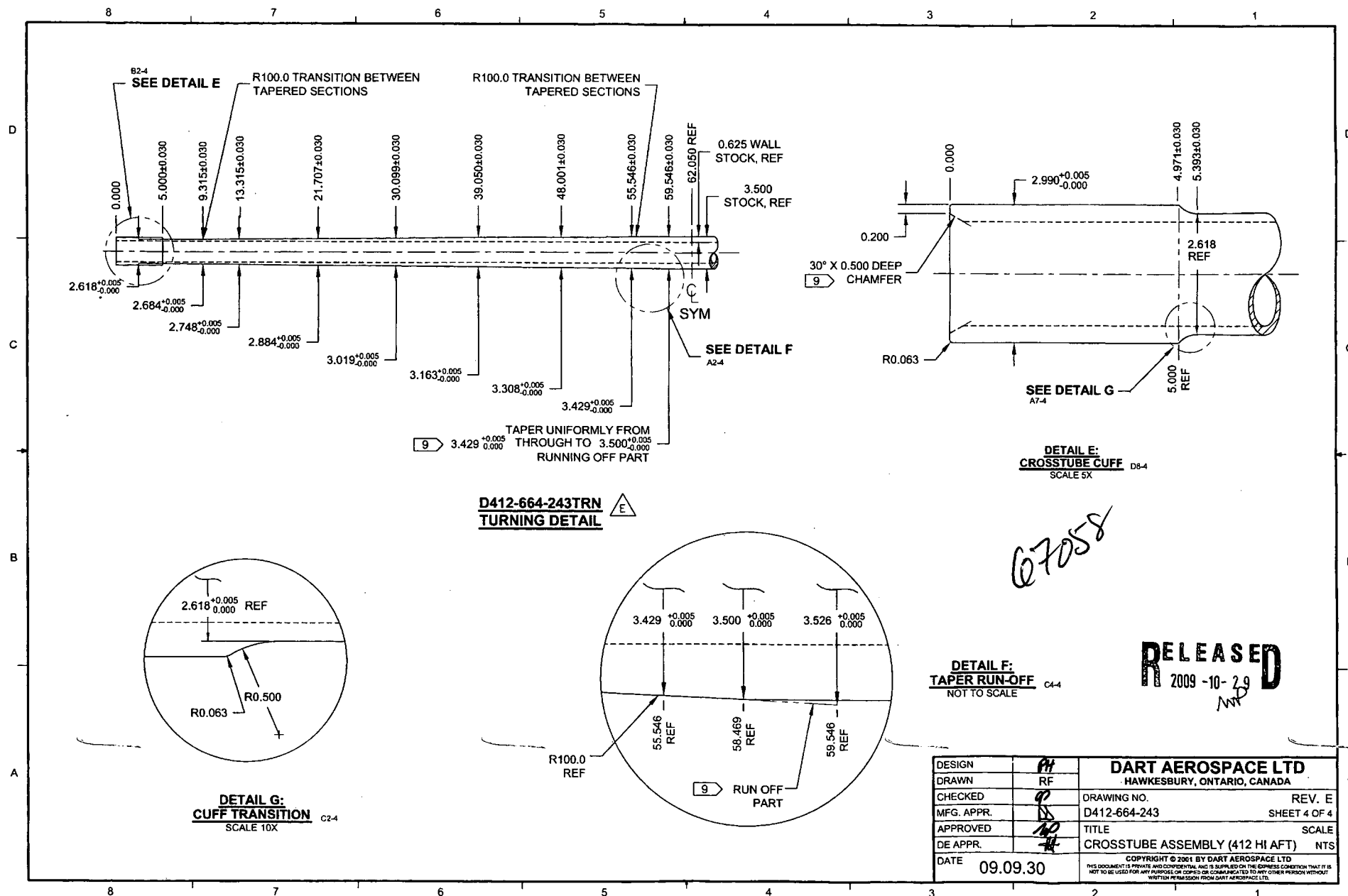
16
MS21920-28 CLAMP
REF

SECTION A-A C6-2
SCALE 4X

RELEASED
2009-10-28
WAP

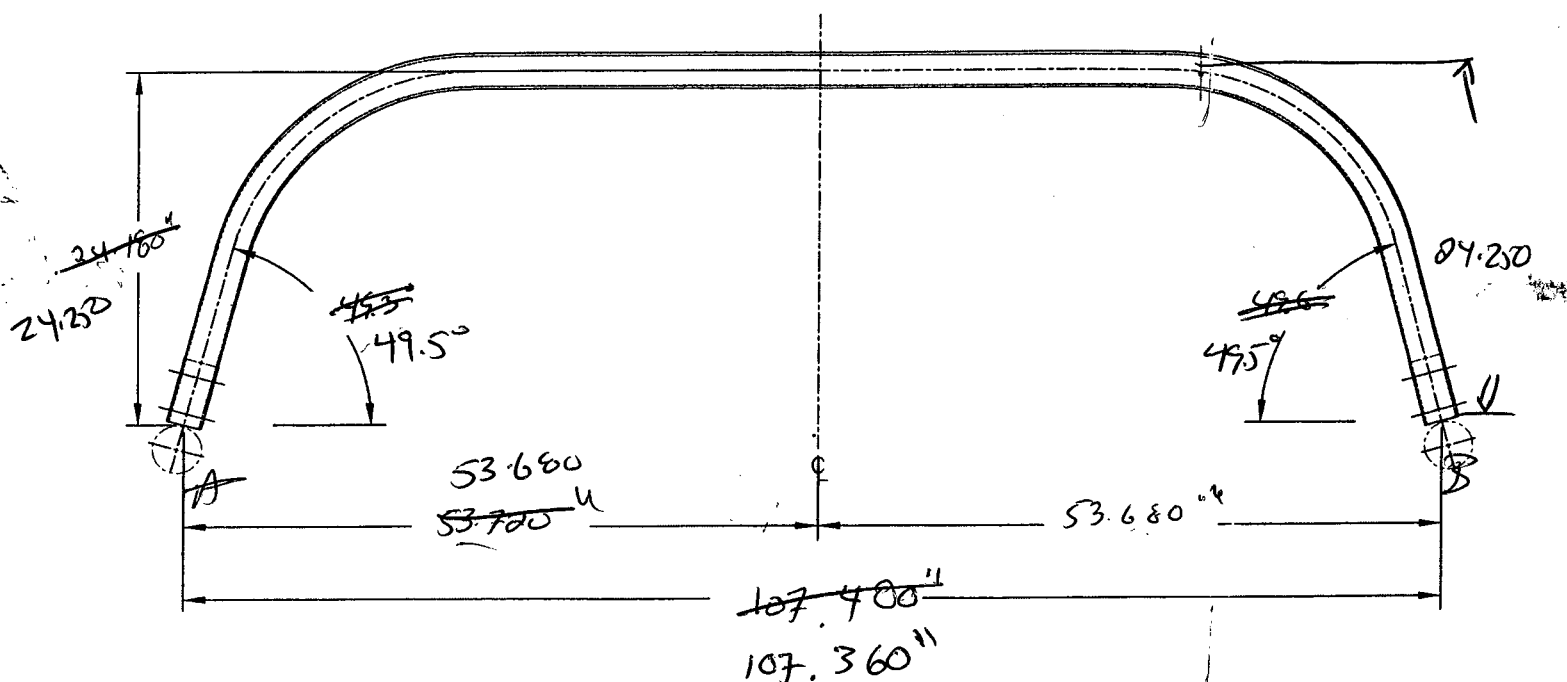
DESIGN	PH	DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	Q	DRAWING NO.	REV. E
MFG. APPR.	DS	D412-664-243	SHEET 2 OF 4
APPROVED	MP	TITLE	SCALE
DE APPR.	MP	CROSSTUBE ASSEMBLY (412 HI-AFT)	NTS
DATE	09.09.30	<small>COPYRIGHT © 2001 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSES OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	





DART AEROSPACE LTD		Work Order:	62058
Description: Crosstube High Aft (412)		Part Number:	D412-664-203
Inspection Dwg: D412-664-243 Rev: E		Page 1 of 1	

Required Dimension	Min	Max
Height	24.24	24.50
1/2 Span	53.59	53.85
Angle	49	52
Total Span	107.18	107.70



Comments

53.680
53.680
107.360

QC15 Inspection	8
Date	11/03/17

Rev	Date	Change	Revised by	Approved
A	07.02.06	New Issue	KJ/JM	
B	07.05.08	Dimensions updated per Dwg rev. D	KJ/JLM	
C	10.02.02	Dwg Rev updated	KJ	



LIQUID PENETRANT TEST REPORT

P- 12230

CLIENT	<u>DAI AEROSPACE</u>	DATE	<u>MARCH 18-2011</u>	PAGE	<u>1</u> OF <u>1</u>
ATTENTION	<u>LINDA LACELLE</u>	ACUREN JOB NO.	<u>188-11-02057</u>	TIME	AM <input checked="" type="checkbox"/> PM <input type="checkbox"/>
ADDRESS	<u>1270 ABELDEEN ST.</u>	PO/NO No.	<u>13681</u>		
	<u>HAWKES BURY, ON.</u>	WORK LOCATION	<u>HAWKES BURY.</u>		
	<u>K6A 1K7</u>	ACCEPTANCE STD.	<u>ASTM 1417/AS1-038</u>	REV./DATE	<u>2005</u>
PROJECT	<u>F.P.I. on cross TUBES</u>				
ITEM(S) EXAMINED	<u>(4)</u>				

JOB DESCRIPTION	PROCEDURE NO. <u>LT-0002</u> REV./DATE <u>2008</u>	TECHNIQUE NO. <u>LT-0002</u> REV./DATE <u>2008</u>
PART NO.	<u>-</u>	MATERIAL <u>ALUMINE ALUMINUM</u> THICKNESS <u>VARIABLES</u>
SCOPE	<u>WET FLUORESCENT LIQUID PENETRANT INSPECTION CARRIED OUT 100% EXTERNAL SURFACE.</u>	

TEST DETAILS	
METHOD <input checked="" type="checkbox"/> FLUORESCENT <input type="checkbox"/> VISIBLE	<input checked="" type="checkbox"/> WATER WASH <input type="checkbox"/> SOLVENT REMOVABLE <input type="checkbox"/> POST EMULSIFIED
FAMILY BRAND <u>MAGNA FLUX</u>	BLACK LIGHT S/N <u>16459</u> <input checked="" type="checkbox"/> OUTPUT > 1000 μ W/cm ² <input type="checkbox"/> AMBIENT < 2 fc
PENETRANT <u>2L 67</u> MINIMUM DWELL TIME <u>45</u> MIN.	LIGHTING EQUIP. <input type="checkbox"/> FLASHLIGHT <input type="checkbox"/> TROUBLELIGHT <input type="checkbox"/> OUTPUT > 100 fc @ SURFACE
PENETRANT REMOVER <u>H2O</u> MINIMUM DRY TIME <u>>10</u> MIN.	OTHER <u>LABINO</u>
DEVELOPER <u>SKD 52</u> MINIMUM DWELL TIME <u>10</u> MIN.	LIGHT METER S/N <u>1098866</u> CAL DUE DATE <u>06-7-19</u>
DEVELOPER TYPE <input checked="" type="checkbox"/> NON AQUEOUS <input type="checkbox"/> AQUEOUS <input type="checkbox"/> DRY	<u>2011</u>

TEST SURFACE	
SURFACE CONDITION <input type="checkbox"/> AS GROUND <input type="checkbox"/> AS WELDED <input type="checkbox"/> MACHINED <input type="checkbox"/> SHOT BLASTED <input checked="" type="checkbox"/> CLEAN BARE METAL	
SURFACE TEMPERATURE <input type="checkbox"/> < -4°C/ 20°F <input type="checkbox"/> -4°C/ 20°F TO 10°C/50°F <input checked="" type="checkbox"/> 10°C/50°F TO 52°C/125°F <input type="checkbox"/> > 52°C/125°F	

RESULTS- <input type="checkbox"/> METRIC <input checked="" type="checkbox"/> IMPERIAL	
<u>1 CROSS TUBE: W.O. 67057 ✓</u>	
<u>1 CROSS TUBE: W.O. 67058 ✓</u>	
<u>1 CROSS TUBE: W.O. 67055 ✓</u>	
<u>1 CROSS TUBE: W.O. 67056 ✓</u>	
	<u>11.03.21</u>

Scope of Services
The agreement of Acuren Group Inc. to perform services extends only to those services provided for in writing. Under no circumstances shall such services extend beyond the performance of the requested services. It is expressly understood that all descriptions, comments and expressions of opinion reflect the opinions or observations of Acuren Group Inc. based on information and assumptions supplied by the owner/operator and are not intended nor can they be construed as representations or warranties. Acuren Group Inc. is not assuming any responsibilities of the owner/operator and the owner/operator retains complete responsibility for the engineering, manufacture, repair and use decisions as a result of the data or other information provided by Acuren Group Inc. In no event shall Acuren Group Inc.'s liability in respect of the services referred to herein exceed the amount paid for such services.

Standard of Care
In performing the services provided, Acuren Group Inc. uses the degree, care and skill ordinarily exercised under similar circumstances by others performing such services in the same or similar locality. No other warranty, expressed or implied, is made or intended by Acuren Group Inc.

SIGNATURES		DTR # <u>E-63247</u>
CLIENT REPRESENTATIVE <u>Zan Titley</u>	<u>Zan Titley</u> SIGNATURE	REPORT REVIEWED BY:
TECHNICIAN (SIGNATURE): <u>[Signature]</u>		NAME INITIALS
NAME (PRINT): <u>Mike Johnston</u>	1 ST TECHNICIAN	
CGSB LEVEL <u>I</u> SNT LEVEL <u>_____</u>	2 ND TECHNICIAN	
CGSB REG. NO <u>6606</u>	CGSB LEVEL <u>_____</u> SNT LEVEL <u>_____</u>	
	CGSB REG. NO <u>_____</u>	